Short-term loan amount allocated to Madhya Pradesh during the years 1991-92 to 1993-94 is given below:—

Year	(Rs. Crores)
1991-92	18.25
1992-93	20.55
1993-94	10.77 (For Kharif 1993 only)

(b) Short-term loans to the States have been discontinued from Rabi 1993-94.

Research Cantres in Madhya Pradesh

7404. SHRI DILIP SINGH JUDEV: Will the Minister of AGRICULTURE be pleased to state:

(a) the names of the research councils/ research centres and projects set up in Madhya Pradesh under the Indian Council of Agriculture Research location-wise and district-wise and the objectives thereof;

(b) the amount spent on the said centres and projects separately during the last three years; and

(c) the impact of research works on agriculture production?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI S. KRISHNA KUMAR): (a) and (b) The names of ICAR Institutes, Projects and their Centres operating in MP alongwith their locations and expenditure during last 3 years is given in Annexure [*Vide* Appendix 173, Annexure No. 159].

The objectives of these research centres are highlighted in the enclosed statement I (*See* below)

(c) The research undertaken at these centres helped in development of promising varieties of food grains and horticultural crops, oilseeds, cotton as also production technology. The salient findings are given in the enclosed state-ment-II.

Statement-I

Objectives of ICAR Institutes, All India Coordinated Research Projects and other Projects / Centres

I. ICAR INSTITUTES AND THEIR CENTRES

Crop based institutes like National Research Centre on Soybean, Indore conduct basic and strategic research and develop technology appropriate to the Crops. The institute serves as an information bank and extend consultancy service and expertise.

Resource Management Based institutes viz. Indian Institute of Soil Science Bhopal, Central institute of Agricultural Engineering, Bhopal, National Research Centres on Weed Science Jabalpur objectives are:

(i) To undertake basic and strategic research in the areas of soil science, weed control and agricultural engineering etc.

(ii) To act as repository of knowledge in the respective areas to provide scientific leadership.

(iii) To train personnels in the new technques and technologies.

(iv) Extend consultancy service and expertise.

Research centres of fisheries institutes of the ICAR in Madhya Pradesh have the objective of training and demonstration of seed production technologies of freshwater aquaculture.

II. RESEARCH PROJECTS AND THEIR CENTRES

(i) Test and evaluate technologies and identify their suitability for the region.

(ii) Take-up site and situation specific research in the crops and resource management.

(iii) Indentify varieties of food grains, horticultural and other crops for suitability in the area.

(iv) Transfer research results and technologies to State Departments and user agencies for adoption.

Statement-II

Salient findings of research undertaken by ICAR Institutes, Projects and their Centres in Madhya Pradesh

The research work has helped in development of many varieties in Madhya Pradesh. The important varieties are given below:

Crop	Varieties Developed
Rice	Ajay, Heera, Kranti, Poorva, Madhuri, JR-75, Ruchi, Shyamala, Mahamayor.
Wheat	Lok-1, WH-147, HD-2236, Raj 1555(d), J-405, Swati, HD-2327, Sujata, Meghdoot (d), Narbada-4, KRL-1-4 Raj 3077, HI 838(d), GW-190, GW-173 (d).
Maize	Deccan 103, Ganga 2, Sartaj, Trishulata, Deccan-107, Dhawal Harsha, Navjot, Surya, Madhuri Mahikanchan, Megha.
Small Millet	VL-149, VL-29.
Pearl Millet	MP-155, RCE-IC-9, VBH-4, Raj-171, ICMV-155, Pusa 322, ICMV-221.
Forage Crops	Raj Bajra Chari-2 and Fodder Cumbu-1 (Fodder bajra). IFC-8401 (Fodder Cowpea)
Pigeonpea	ICPH-8, ICPL-151, Pusa-9, ICPL-87119, Jawahar Arhar-4.
Chickpea	Phule G-5, ICCV-10, BG-372, JG-74.
Mungbean	RMG-62, Pusa 105, PDM-11, BM-4, GM-84-18.
Urdbean	PDU-1, TPU-1 and TPU-4.
Lentil	Sapna, Sehore 74-3, JL-1, Shivalik.
Pea	Malviya Matter, JP-885, KPMR-65, Jawahar Matter-6.
Sesame	TKG-21, OMT 11-6-3.
Soybean	JS-71-65, JS-80-21, JS-335.
Niger	IGP-76, Ootacamund.
Groundnut	J(E) 2.
Cotton	JKHY-1, JKHY-2, Khandwa-1, Vikram.
Sugarcane	Co-6806, Co 7219, CoM-7125, CoLK-8001, Co 1148.

Besides these useful varieties, the breeder seed production target fixed for all the three years have also been met. The pest control is an integral part of all crop improvements. The centres on rodent control, nematodes and pesticides residues have helped in the development of pest management strategies in the country. MP has therefore, contributed significantly to the increase in the overall production and productivity of different crops in the country.

Technology has been developed for utilization of saline water in conjunction with good quality water. Wheat cultivars suitable for growing under saline and alkali conditions have been identified and recommended for enhancement in agriculture production. Efficient schedules

and methods of irrigation have been developed. Substantial saving in irrigation water in rice has become possible by irrigating the crop 5 to 7 days after disappearances of ponded waters. The practice is helpful in minimising the risk of water logging. Improvement in irrigation efficiency has been brought about by investigating functional maladies of wells and remedial measures for them.

Significant genetic improvement of pigs has been observed with better growth, low morality and reduction in age of marketing. Research in poultry is in progress to develop a dwarf female line to increase the efficiency of commercial broiler production. Body weight in terminal generation at 6 weeks has been 430 gms and at 20 and 40 weeks it was respectively 1413 gms and 2195 gms.

Improved farm implements and machines have been developed for crop production, on-farm agricultural produce processing and storage and efficient management of energy and dissemination to the farmers and entrepreneurs.

In mango 100 cultivars have been evaluated of which Bangalore, Rumani, Neelum and Sunderja gave very good yield. Patharahawa cultivar of mango was found to be promising for pickles. Three superior clones of Chausa have been collected. In guava, highest yield was recorded in Allahabad Safeda followed by Sardar. Several pea varieties have been developed at Jabalpur which are resistant to powdery mildew and insect pest. Potato based cropping systems have been developed besides the selection of suitable varieties for the region. Suitable varieties in various tuber crops identified and agro-techniques have been developed. Cultivation technology of oyster mushroom has been developed, which has increased the production of mushroom in the region. Control measures for Phytopathora, Anthrocnose and Bacterial leaf spot diseases of betelvine developed and transferred for adoption in the area.

In fisheries science research, the various techniques developed for Madhya Pradesh are seed production of carps, seed production technology of magur and rearing of fry in cages, mass production of hybrid Batla, feasibility of aquaculture in water-logged agricultural fields of Tawa Command Area, culture of freshwater prawns in ponds, rearing of major carps seed in high stocking density and location of mahseer seed resources in river Narmada for culture purposes. Package of practices were made available to state fisheries department for implementation to obtain sustainable fish production from reservoir by adopting the management strategies the fish production from the Ravishankar reservoir could be enhanced.

Demand for foodgrains

7405. SHRI O.P. KOHLI: Will the Minister of AGRICULTURE be pleased to state:

(a) whether domestic demand for foodgrains is expected around 500 million tonnes against the current production level of 184 million tonnes by the year 2020, as per the findings of a recent seminar organised by the Institute for Studies in Population, Agriculture and Rural Change, University of Kalyani, West Bengal;

(b) if so, whether the per capita foodgrains production of the country has been steadily going down from 575 gm. per capita per day in 1988-89 to 551 gm. per capita per day in 1993-94; and

(c) if so, the steps taken by Government to augment foodgrains production consistently and rapidly?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI ARVIND NETAM): (a) No, Sir.

(b) Per capita foodgrains production varies widely from year to year due to fluctuations in production arising out of aberrations in monsoon rainfall, weather and other agro-economic factors. Apart from level of production and population,